Answer 1:

Bibliographic Information

Establishment and characterization of a human adrenocortical carcinoma xenograft model. Logie, Armelle; Boudou, Philippe; Boccon-Gibod, Liliane; Baudin, Eric; Vassal, Gilles; Schlumberger, Martin; Le Bouc, Yves; Gicquel, Christine. Laboratoire d'Explorations Fonctionnelles Endocriniennes, INSERM U-515, Hopital d'Enfants Armand Trousseau, Paris, Fr. Endocrinology (2000), 141(9), 3165-3171. Publisher: Endocrine Society, CODEN: ENDOAO ISSN: 0013-7227. Journal written in English. CAN 133:294433 AN 2000:603823 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Adrenocortical carcinomas are rare malignant tumors. They have a poor prognosis, as they are often diagnosed late and are usually resistant to chemotherapy. The lack of a suitable animal model for these tumors has been a major obstacle to the evaluation of new therapeutic agents. The aim of this study was to establish and characterize xenografts of the human adrenocortical carcinoma NCI H295R cell line as a model of adrenocortical carcinoma for future therapeutic trials. This cell line was s.c. injected (6×106 cells) into nude mice (n = 20). Solid tumors were locally measurable after 45 days at 90% of the inoculation sites. The xenografts were similar histol. to the original adrenocortical carcinoma from which the cell line was derived. The xenografts precisely reproduced the dysregulation of the insulin-like growth factor (IGF) system [overexpression of the IGF-II and IGF-binding protein-2 (IGFBP-2) genes] typical of adrenocortical carcinoma. Similarly to adrenocortical carcinomas, human IGFBP-2 (but not IGF-II) was secreted in mouse plasma. 17-Hydroxyprogesterone We analyzed steroid prodn. (cortisol, 17-hydroxypregnenolone, 17-hydroxyprogesterone, dehydroepiandrosterone, Δ4-androstenedione, 11-deoxycortisol, corticosterone, and testosterone). Xenografts produced all three class of steroids, with the preferential prodn. of androgens of the Δ4 pathway. The H295R xenograft model is a good model of human adrenocortical carcinoma, as it mimics dysregulation of the IGF system usually found in these tumors. It also produces IGFBP-2 and steroids that can be used as tumor markers. This model may therefore be useful for evaluating therapeutic agents.

Answer 2:

Bibliographic Information

Establishment and characterization of an estrogen-producing human ovarian granulosa tumor cell line. Ishiwata, Isamu; Ishiwata, Chieko; Soma, Masayuki; Kobayashi, Noboru; Ishikawa, Hiroshi. Ishiwata Obstetr. Gynecol. Hosp., Mito, Japan. JNCI, Journal of the National Cancer Institute (1984), 72(4), 789-800. CODEN: JJIND8 ISSN: 0198-0157. Journal written in English. CAN 100:189656 AN 1984:189656 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Cells designated HTOG and HTOT were established by long-term culture from a human ovarian granulosa cell and a theca cell tumor, resp. The HTOG line grew well, forming colonies and multilayered rapidly without contact inhibition; serial passages of HTOG were performed over 100 times successively within 25 mo. HOTG were spindle cells, polygonal or spherical in shape, revealed neoplastic and pleomorphic features, and produced estrone (E1) and 17β-estradiol (E2). The chromosome no. varied considerably and showed hyperploidy; the modal chromosome no. was in the hypertriploid-tetraploid range. When HTOG cells were heterotransplanted into the subcutis of BALB/c nude mice, they produced a sarcomatous diffuse type of granulosa cell tumors. In contrast, HTOT cells grew slowly while forming monolayers and underwent 5 successive passages in about 100 days, but a theca cell tumor line could not be established. HTOT cells were fibroblastic in shape and also produced E1 and E2. The majority of the cells showed diploidy and karyol. normality.

Answer 3:

Bibliographic Information

Use of heterotransplants in diffusion chambers for determining the individual drug sensitivity of human ovarian cancer to

chemotherapeutic drugs. Sobol, I. L.; Marenich, A. F. Cancer Res. Cent., Moscow, USSR. Byulleten Eksperimental'noi Biologii i Meditsiny (1979), 88(8), 243-5. CODEN: BEBMAE ISSN: 0365-9615. Journal written in Russian. CAN 91:150972 AN 1979:550972 CAPLUS

Abstract

The sensitivity of 10 ovarian tumor heterotransplants in diffusion chambers in mice to hexamethylmelamine [645-05-6], cyclophosphane [50-18-0], 5-fluorouracil [51-21-8], methotrexate [59-05-2], dactinomycin [50-76-0], 17-hydroxyprogesterone caproate [630-56-8], and thiotepa [52-24-4] was variable. E.g., hexamethylmelamine, cyclophosphane, 5-fluorouracil, and methotrexate had a brief inhibiting effect in growth of a solid glandular cancer, inhibited growth of a glandular papillary cancer, and had no effect on growth of a papillary adenocarcinoma. In 4 of 5 cases where results of these expts. were compared with results of expts. obtained in the treatment of patients with the same drugs, exptl. results correlated with clin. findings.